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OF

NATURAL HISTORY

AND

JOURNAL FOR RECORDING FACTS & ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, ANNELIDES,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

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Anecdote of the Power of Fascination as exercised by a Fox, with some Remarks on the exercise of a similar Power by other Predaceous Animals. By J. H. GURNEY, Esq.

I HAVE received the following interesting statement from a respectable gamekeeper in the county of Surrey : —

"In May, 1838, I was very much annoyed by the constant visits of a fox amongst my poultry, as scarcely a night passed but I lost either a turkey or Guinea-fowl, sometimes partly eaten, sometimes taken quite away, and at other times left dead, but very little mutilated; and as they roosted on a large spreading oak, I was at a loss to know how a fox could get at them, till one morning, just as day began to dawn, I heard a great noise among the poultry, and on looking out from my window, I plainly perceived a fox running round and round under the place where the poultry sat, and the poultry soon began to fall from the tree in great confusion. The fox immediately seized its prey, and I was no longer at a loss to know in what way I had lost my poultry. The fox was killed within a day or two after, in an adjoining paddock, and proved to be a very large male fox. I have not since lost any poultry in a similar way."

This account confirms me in an opinion which I have long entertained, that many predaceous animals exercise a species of mesmeric influence over their victims, which greatly facilitates their capture. I recollect having heard of a cat, which would sit on the house-top, and catch sparrows which approached her too closely in their vain attempts to drive her from her post; and it is well known that if a cat or an owl attacks a cage or aviary containing small birds, the latter constantly fly against the wires, thus enabling their enemy to strike them through the wire-work. Analogous to this is, in all probability, the power possessed by rattlesnakes, and some other serpents, of attracting small birds within their reach. And I doubt not that a similar law of Nature gives rise to the habit which small birds have of mobbing those birds and animals which make them their prey : as an illustration of which I may mention a circumstance that came under my own observation some years since.

A kestrel was flying lazily, slowly, and at but a slight elevation, by the side of a plantation, closely surrounded and angrily pursued by a flock of chattering sparrows. For some seconds, or perhaps minutes, the hawk took no notice of his tormentors; but at length, suddenly turning on his side in the air, and striking out one foot with a lateral

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motion, he clutched one of the sparrows which had ventured too close to him, and immediately darted off, carrying away his prey in his deadly gripe, and quickly distancing the other sparrows which still pursued him, and from which he seemed previously to have feigned that he could not escape.

I once saw a golden eagle, which appeared entirely to fascinate a rabbit that was put into the large cage in which the eagle was kept. As soon as the rabbit was introduced, the eagle fixed his eye upon it, and the rabbit intently returned the gaze, and began going round the eagle in circles, approaching nearer each time, the eagle meanwhile turning on his axis (as it were) on the block of wood upon which he was seated, and keeping his eye fixed upon that of the rabbit.

When the rabbit had approached very near to the bottom of the eagle's perch, it stood up on its hind legs, and looked the eagle in the face; the eagle then made his pounce, which appeared at once to break the charm, and the rabbit ran for its life, but it was too late for it to escape the clutch of the eagle, and the instant death which followed that tremendous squeeze.

It is well known that a hare or rabbit, if pursued by a stoat or weasel, soon becomes, first bewildered, and then almost paralyzed, by the consciousness of its pursuer's advance. May not this again be another development of the same principle?

To return to the point where I began, I will in conclusion repeat another story of turkeys and foxes which I know to be true, but which I believe has not yet been recorded.

A gamekeeper in Norfolk had under his care a flock of nominally wild turkeys, descended from some that were imported into Norfolk from America, during the last century, by the then Earl of Buckinghamshire.

These turkeys roosted in a wood which was frequented by foxes, and the gamekeeper, wishing to protect the turkeys from their attacks, moved his dog-kennels under the trees upon which the turkeys perched, in order that the dogs might act as their guardians against the foxes. This lasted for some months; after which, the foxes having been destroyed, the gamekeeper removed his dogs back again to his own cottage, which was distant about a mile from where they had been quartered in the wood. On getting up early the next morning, his surprise was great in observing that the turkeys had followed the migration of their protectors, and were all roosting on the trees which overhung the spot to which the dogs and their kennels had just been removed.

Should these somewhat desultory remarks draw attention to the subject to which they refer, their insertion in the 'Zoologist' will perhaps be not altogether useless.

J. H. GURNEY.

Easton, Norfolk, August 26, 1853.

Notes on Squirrels. — Amongst the great numbers of these active little animals, which live here in quiet and security, is a variety which I have never met with elsewhere, although it may probably occur in other places. This variety, which is as numerous as the common kind, has the whole of the tail of a flaxen or straw colour; and this, when elevated above the head and waved about, gives the animals the appearance, when seen at a distance, of holding up a white plume or parasol. There appears to be no other difference between the two kinds, and whether this arises from any particular age, I am unable to say. The squirrels may be seen here both in summer and winter; even when snow is on the ground, they appear to be almost as much out and about as in the warmer months, feeding chiefly upon the beech-mast, of which there are great quantities hanging on and fallen from the trees, and serving as food not only for the squirrels, but also for large flocks of wood-pigeons which frequent this neighbourhood, and are then congregated together. The other day, whilst walking round the lawn, several squirrels crossed the path, and one, at some distance off, appeared to be encumbered with something it was carrying in its mouth, and which greatly impeded its progress. After trying to intercept the squirrel, I got near enough to see that it was a large mushroom it was carrying to a neighbouring tree, up which it ran in its usual spiral mode of ascent, and having reached a place of safety, began its repast. Of squirrels betaking themselves to such luxuries, I was not before aware, as there was such a superabundant quantity of their usual kind of food at hand; but on inquiring of the keeper whether he had before observed such to be the case, he informed me that when he had lately lived near a large wood some few miles distant, of which I had formerly rented the shooting, he had frequently seen the squirrels carrying up the trees the mushrooms which grew in the cover and adjacent fields, and which they seemed to eat with a proper degree of relish. But, as has been before observed in discussing the question of food in former numbers of the 'Zoologist,' it is strange what apparently unnatural food is resorted to, and the capricious appetite of various kinds of animals. In many places it is thought strange to see squirrels out of their drays in hard winter weather, but here, as I have before mentioned, they are constantly to be met with and tracked at all times, even in the snow, when they appear just as lively and free from suffering from the severity of the weather, as in the summer months. They come down the large beech trees, and scratch away the snow-covered moss at the bottom, where they find plenty of mast for their support, besides whatever other store of food they may have collected and put by for special occasions. They however do much mischief to growing fir and larch trees by biting off their leading shoots, as well as by destroying vast quantities of nuts and filberts before they are nearly ripe, and to obtain which they do not hesitate to run up the fruit-trees planted against the outer walls, and down the other side into the garden itself, making sad havock with the supposed-to-be-protected filberts within. I have found it an excellent plan, in order to prevent this wholesale destruction, to have a piece of zinc made in the shape of an inverted basin, and nailed round the stem of the filbert-tree, taking care at the same time to have all the long pendant branches trimmed off, so that they cannot be reached from the ground, or from the over-hanging boughs of any adjacent tree,—a precaution often neglected by gardeners, who are often surprised to find all their care in vain, because they have left some pea-stick or rake-handle leaning against the tree, so as to enable the squirrels to reach what they are seeking to obtain, without ascending the stem of the tree, which the zinc basin will effectually prevent their doing. The same plan prevents their attacking walnuts. Squirrels do not seem much inclined, except at particular times, to take the green walnuts before the time for gathering has arrived; but not so with the nuts and filberts, of which great quantities may be seen every summer lying under the trees totally destroyed, so that scarcely a single nut or filbert is left on the tree, and this long before they are fit for gathering, as if the squirrels had tried them in mere wantonness one after another, and, finding them unripe, had cast them underneath, until bushels upon bushels are thus destroyed. This wholesale destruction is effectually prevented, and at a most trifling expense, by the method above mentioned; the same zinc cap or basin will last for many years, and may either be taken off in winter, or be left on altogether.— *W. H. Slaney; Hatton Hall, August* 10, 1853.

Note on the Vulture or Eagle which is said to attack the trained Falcons of the Asiatic Falconers.— In a former number (Zool. 3648) I called attention to the above circumstance, attributed by Lieut. Burton to a species of vulture, and by Mr. Jerdon to the Bonelli's eagle. Since that date, this curious subject has been touched upon in two other works, namely, Mr. Layard's 'Second Expedition to Nineveh,' and Mr. Barker's work on Cilicia, intituled, 'Lares and Penates.' In Mr. Layard's work (p. 299) occurs the following passage:—"Suttum came with us, carrying his hawk 'Hattab' on his wrists. * * * Game abounded, and the falcon soon flew towards a bustard, which his piercing eye had seen lurking in the long grass. The sun was high in the heavens,—already soaring in the sky was the enemy of the trained hawk, the 'Agab,' a kind of kite or eagle, whose name, signifying 'butcher,' denotes its bloody propensities. Although far beyond our ken, he soon saw Hattab, and darted upon him in one swoop. The affrighted falcon immediately turned from his quarry, and, with shrill cries of distress, flew towards us. After circling round, unable from fear to alight, he turned towards the desert, still followed by his relentless enemy. In vain his master, following as long as his mare could carry him, waved the lure, and called the hawk by his name,— he saw him no more. Whether the noble bird escaped, or fell a victim to the 'butcher,' we never knew. Suttum was inconsolable at his loss." Mr. Layard adds in a note, "Easterns never hawk, if they can avoid it, when the sun is high, as the bird of prey described in the text then appears in search of food." Mr. Barker, in his work on Cilicia (p. 294), speaking of a trained goshawk which he had in that country, says, "There was nothing he would not fly at, if I would let him go, and he once actually attacked a vulture, which had carried off one of his companions, a goshawk belonging to a sporting friend, who was out with me, and who had neglected his bird in pursuing the game his dogs were hot upon." At p. 297, Mr. Barker also remarks, "The peregrine of the cliffs of Mount Taurus is smaller than the English peregrine, but more beautifully variegated in plumage. It is known as the 'Barbary falcon.' It is generally kept in the East by rich men, who can afford to have one man, or even two men, for each bird. The hand of the falconer should be its only perch. Thus treated, its natural wildness is conquered and it may be brought to take anything, although it is generally kept to protect the doghan (goshawk) from the attacks of its natural enemies, the eagle and vulture." I hope that the interest which must attach to this very curious subject, will be considered a sufficient apology for my requesting insertion of these extracts in the 'Zoologist.' — *J. H. Gurney, Easton, Norfolk, August* 26, 1853.

Occurrence of the Hobby (Falco subbuteo, *Linn.*) *near Newcastle-on-Tyne.*—A male hobby was shot on our town-moor on the 25th of July last, and is now in the collection of Mr. Geo. Balmer: another was seen and fired at, but without success. This, I believe, is the second example that has been obtained in this district, one having been killed by a boy with a stone, near Tynemouth, about the year 1838, and was in the possession of the late James Archbold, Esq. — *Thos. John Bold ; Bigg Market, Newcastle-on-Tyne, August* 15, 1853.

Occurrence of the Hawfinch and Brambling at Selborne. — On Tuesday last I saw the hawfinch at Selborne. This is the third time I have seen it within the last six years, and it is well known to occur there occasionally. One of our farmers has two preserved, which were killed in my grounds. I have a beautiful brambling finch, which was taken at Selborne last winter. — *Thos. Bell;* 17, *New Broad Street, July* 18, 1853.

Note on the occurrence of the Rose-coloured Pastor (Pastor roseus) *near Norwich.*— I understand that a fine adult male bird of the above beautiful species was procured a few miles from Norwich in the course of last week.—*J. H. Gurney ; Easton, Norfolk, August* 26, 1853.

Occurrence of the Dotterel (Charadrius Morinellus) *near Dorchester.* — This pretty bird seems more plentiful than usual in our neighbourhood this year. Last Monday, the 29th of August, two were shot by a gentleman, one in my presence, on the seashore at Church-hope Bay, in the Isle of Portland, and another on his way from thence to Weymouth, upon the Small-mouth Sands: I also saw another on that day. Both of those shot were young birds, in good condition, and very sweetly plumaged.—*John Garland ; Dorchester, September* 2, 1853.

Occurrence of Temminck's Stint (Tringa Temminckii) *near Penzance.*—Temminck's stint appears to be by no means a rare bird in the salt marshes in this neighbourhood, during the autumnal migratory movement. On Saturday last I observed one flushed by the train passing over the Marazion Marsh ; it rose and dropped precisely like a Jack snipe, and might have been mistaken for it, but for its smaller size. Three specimens were obtained from the same locality a few days since by Mr. Vingoe, and he observed at the same time a *flock* of at least a dozen. Independently of the difference in the length of the tarsus, Mr. Vingoe tells me that he can invariably distinguish this species from the little stint (*Tringa minuta*) by its call-note, which resembles more that of the common cricket, whereas the note of the little stint is like its own name,— "Stint, Stint." — *Edward Hearle Rodd ; Penzance, August* 26, 1853.

NOTICES OF NEW BOOKS.

'*A Naturalist's Rambles on the Devonshire Coast.*' By PHILIP HENRY GOSSE. London: John Van Voorst, Paternoster Row. 1853. *Price* 21*s.*

SCARCELY have we pronounced a most favourable opinion of Mr. Gosse's 'Naturalist's Sojourn in Jamaica,' than we are called upon to review another book from the same pen, equally beautiful, equally amusing, and equally instructive. Mr. Gosse produces the beautiful, the amusing, and the instructive, with a rapidity we have seldom seen equalled, and never surpassed. This book is a fit companion to the 'Sojourn;' like that it is a series of pictures which it must delight the lover of Nature to look upon: in the former we were introduced to the inhabitants of earth, in this we are made familiar with the denizens of ocean; we are bid to look upon the wonders of the deep; the plant-animals of the sea are revealed to us in all their loveliness, are presented to us in their most attractive forms; and not these only, but also mollusks and crustaceans, whose living and moving characters are here for the first time laid down.

The desultory manner in which Mr. Gosse has arranged his pen-pictures is, we think, one great charm of the book: we are led onwards without any risk of being tired by scientific technicalities. Here is a picture of Anthea: —

"In a large vase of sea-water Anthea's actions are as peculiar as its appearance. It is fond of climbing up the sides of the glass, a feat which it accomplishes with a considerable measure of (comparative) activity. It glides up by the broad fleshy base, pretty much in the same manner as a Gasteropod does by its expanded foot; and yet the process is not exactly the same. The power which Anthea has of inflating portions of its body, swelling them out in large tumid lobes separated by deep sulci from the rest of the circumference, assists it in crawling. We will suppose the Anthea resting on the bottom of the vessel, when it feels a desire to mount the sides of the glass. Pushing out a great inflated lobe towards that side the sole of which is free from the surface, it takes hold of the glass with the edge of the lobe, and when the contact is firm, relaxing its former hold, it slowly drags forward the body, until the lobe is again lost in the general circumference, or even till the body projects in two smaller lobes one on each side of the principal one. The base being now made firmly to adhere, again the lobe is freed, and again protruded, and the same process is repeated until the animal is satisfied with the position that it has gained. Sometimes this is at mid-height, the intertwined tentacles streaming loosely down by their own weight. At other times it rises to the very water's edge, and even thrusts out its base in an inverted position upon the surface of the water, as if it would float by the mere contact of the dry base with the air, just as the Limneæ and many other Mollusca do. It does not, however, so far as I can judge, appear capable of quite accomplishing this; but it can remain so suspended, if the slightest possible portion of the margin remain in adhesive contact with the side of the glass.* A little shaking of the vessel, however, causes the water to overflow the surface of the base, which had been hitherto dry, when the animal falls prone to the bottom."—P. 17.

Let us now learn the history of the Daisy Anemone.

"All along this line of limestone rock, in almost every tide-pool and hollow that retains the sea-water, from the size of one's hand upwards, we may at any time find colonies of the lovely daisy Anemone (*Actinia bellis*). In the sunshine of a fair day they expand beautifully, and you may see them studding the face of a rock, just beneath the surface, from the size of a shilling to that of a crown piece. Nothing seems easier than to secure them, but no sooner do the fingers touch one, than its beautifully circular disk begins to curl and pucker its margin, and to incurve it in the form of a cup; if further annoyed, the rim of this cup contracts more and more, until it closes, and the animal becomes globose and much diminished, receding all the time from the assault, and retiring into the rock. Presently you discover that you can no longer touch it at all; it is shrunk to the bottom of its hole, the sharp irregular edges of which project and furnish a stony defence to the inhabitant. Nothing will do but the chisel, and this is by no means easy of appliance. It is rare that the position of the hole is such as to allow of both arms working with any ease; the rock is under water, and often if your chisel is short, it is wholly immersed during the work, when every blow which the hammer strikes upon its head has to fall upon a stratum of water, which splashes forcibly into your eyes and over your clothes; the rock is very hard, and the chisel makes little impression; and what is frequently the greatest disappointment of all, the powdery *débris* produced by the bruising of the stone mingles with the water and presently makes it perfectly opaque, as if a quantity of powdered chalk had been mixed with it, so that you cannot see how to direct the blows, you cannot discern whether you have uncovered the Actinia or not, and frequently are obliged to give up the attempt when nearly accomplished, simply because you can neither see hole nor Actinia, and as to feeling in the pap-like mud that your implement has been making, it is out of the question. Supposing, however, that you have got on pretty well, that by making a current in the pool with your hand you have washed away the clouded water sufficiently to see the whereabouts, and that you perceive that another well-directed blow or two will split off the side of the cavity, — you have now to take care so to proportion the force, that at last you may neither crush the animal with the chisel on the one hand, nor, on the other, drive it off so suddenly that it shall fall with the fragment to the bottom of the pool out of reach.

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* "I have seen one, however, floating quite freely on the surface of the vessel, base uppermost."

"However, we will suppose you have happily detached and secured your Actinia without injury. But how unlike its former self, when you were desirous of making its closer acquaintance, is it now! A little hard globose knob of flesh, not so big as a schoolboy's marble, is the creature that just now expanded to the sun's rays a lovely disk of variegated hues, with a diameter greater than that of a Spanish dollar. It is moreover covered with tenacious white slime, which exudes from it faster than you can clear it away; and altogether its appearance is anything but inviting. You throw it into a jar of water, which of course you have with you when collecting living zoophytes, and thus bring it home, when you transfer it to a tumbler or other suitable vessel of clear sea-water freshly drawn. And here let us watch its changes; which however will not be effected immediately: for it will not expand itself in all its original beauty until it has taken a fresh attachment for its base, which will not in all probability be for a day or two at least.

"The body or stem of Actinia bellis is more or less cylindrical generally; though subject to some change in this respect, for it is occasionally a little enlarged, as it approaches the disk: the sucking base is slightly larger than the diameter of the body, which in specimens of an inch and a half expanse, may be about half an inch.

"The length of the body varies much, according to the depth of the cavity in which the animal lives, for it must expand its disk at the surface. In the open water in a vase, when it appears at home, it may commonly be about an inch from the base to the expansion of the disk, but I have a beautiful specimen before my eye at this moment, which has stretched itself to a height of three inches, expanding at the extremity as usual: the thickness of the stem is in this case somewhat diminished. From the upper part of the cylindrical stem or body, the disk abruptly spreads around to the width above indicated. In this respect A. bellis differs so greatly from other littoral species of sea Anemones, that it can never be mistaken by those who have once seen it. In these, the disk is merely the termination of a short thick column, occasionally a little expanded over the edge; in bellis, however, the diameter of the disk is generally four times that of the body, at the point from which it expands. Its form, viewed externally, is that of a shallow cup, but its surface is in general almost flat, or a very little depressed to the centre. The whole bears a likeness closer than usual to a flower, with a foot-stalk. The disk is so thin and membranous, that it is continually changing its form; the margin is frequently bent over outwardly or inwardly in places; as it lies on the uneven rock, it accommodates itself to the roughnesses, and is hence often irregularly undulated; it very commonly bends inward at the edge in several places, so as to make puckers or frilled scallopings around the margin. And this surely must be meant by what writers describe and draw as 'lobes' to the disk; for of *lobes* proper it has none, not the slightest trace: the outline of the disk is most perfectly and beautifully circular; and I find it often expanded in this state, without any puckering or festooning.

"The tentacles are small but numerous: they are arranged in about six rows; the innermost series contains about twelve tentacles; the next about the same number; the third about twice as many; the fourth is again doubled; the fifth increases in the same proportion; and the sixth contains about thrice as many as the fifth. This ratio, if accurately carried out, would give a total of 768 tentacles to one Actinia, a number which is not far from the mark, although, as in other species, the rows are not quite regular. The inmost series of tentacles is usually erect, or even inclines inwards, the others decline more and more towards the circumference; until the outmost two or three rows lie quite flat upon the disk, to which the exterior one of all forms an exquisite fringe: all the rows are small, but they diminish outwardly in size, and more rapidly the nearer they approach the edge; those of the outmost row are very minute, the longest (for they are not equal) not exceeding the sixteenth of an inch in length, and some being only tiny tubercles: they are slender, and set so close together that I counted sixty in an inch.

"The mouth is oblong, sometimes contracted to a slit, at others showing a sub-oval, or lozenge-shaped opening, with the lips within finely crenated. Delicate depressed lines diverge from the mouth to the circumference of the disk, by tracing which we shall find that the convex space included between two lines leads to and terminates in a tentacle; the disk may be in fact described as formed of the roots of the tentacles soldered together. Viewed from the outside, with a strong light behind, the substance of the disk is exquisitely beautiful, — the diverging but almost parallel fibres resembling the grain of a beautiful piece of wainscot, and each ending abruptly with a rounded point, where the tentacle springs up from the surface on the opposite side.

"The colours of this very lovely Actinia I have not found to vary much. The base is white, which as it ascends becomes flesh-coloured, then lilac, passing (at about the point where the disk expands) into a dull grayish purple, more or less tinged with brown. The upper part of the stem, and the whole of the outer surface of the disk, are studded with pale spots, which are the extremities of tubular glands, one use of which is to attach, by a kind of suction, minute bits of shell, gravel, &c., to the surface, for concealment as is supposed. I have not seen this habit *commonly* resorted to by this species, but I *have* witnessed it.

"The upper surface of the disk is of a rich, deep, umber-brown, often mottled with gray at the first row of tentacles, and merging into gray, lavender-colour or white, towards the third or fourth row. The tentacles are tapered to a point: they are grooved longitudinally on the upper side; they are commonly dark brown at the base, and yellowish brown through the rest of their length, blotched and speckled with white. Those of the inmost row, and frequently some of the others, have one or two broad rings of pure conspicuous white near the basal part, and a broad spot of white divided by a brown line lengthwise, on the disk just at their foot. There is some diversity in the proportions of brown and gray in different individuals, but the yellowish brown tentacle studded with whitish specks is, I think, characteristic.

"There is, however, a very marked variety; for although I at first was disposed to consider it distinct, it must, I feel sure, be referred to this species. In a specimen before me from Capstone Hill, Ilfracombe, the disk and tentacles are unrelieved by any trace of white or gray, being of an uniform dark brown, except that the tentacular ridges that cross the disk are bounded on each side by a fine line of scarlet, scarcely visible except with a lens; its effect is however to give a tint of chocolate to the surface. The outside of this specimen differs not materially from the common state; it is, however, of a particularly bright crimson, instead of purplish.

"That this is a variety of A. bellis is manifest, because I have another on the table from the same locality, which beautifully connects the two states. This is a very handsome specimen: the disk is deep brown, almost black, with the fine lines of scarlet diverging from the centre as in that just described. The tentacles are some of them brown, with one or two specks only of white near the base, and others mottled in the ordinary manner with dark brown, light brown, gray and white; what is strange is, that these varieties of colour are disposed in groups, a cluster of tentacles of the former hues, and then a batch of the latter. The scarlet runs up around the base of each tentacle, flushing its lower parts in a very elegant style; and the oral aperture is marked around the very edge with conspicuous white tooth-like lines. This specimen was remarkable for the extent to which it was clothed with coarse gravel, and for the tenacity with which it held fast its strange stony garment, not dropping a fragment even after several days' captivity. In general, Actiniæ drop their gravel coats soon after they are put into a vessel of clear water.

"It is for the most part a stationary species, and that not only in its own selected hole in the rock-pool, but even in captivity. It seldom leaves the spot in the glass vessel to which it has once attached itself. I have had a specimen, however, take it into his head to be a traveller, after several weeks' residence in one spot; he walked off in a straight line to a distance of four inches, performing the feat, at a pretty uniform rate, in about eight hours, or half an inch per hour.

"In order to examine the structure of the tentacles, I cut off with a fine pair of scissors the tips of one or two, and submitted them to the microscope upon the compressorium. As soon as the pressure began to flatten them, it became apparent that the tentacle was composed of rather thick gelatinous walls surrounding a tubular centre. The latter was filled with a vast multitude of very minute granules of a rich sienna-brown hue, and almost quite globular in form, all being quite alike in shape, colour, and dimensions. These escaped by thousands, on the increase of the pressure, from the tip of the tentacle, where there was evidently a natural orifice forced open by the pressure, but ordinarily, as I suppose, kept firmly closed by muscular action. The gelatinous walls of the tentacle contained, imbedded in their substance, a goodly number (not so immense as in some other species) of those highly curious organs known as the filiferous capsules. They are in this case very minute, being about one twelve-hundredth part of an inch in length, almost linear, and slightly curved. The pressure being continued, each of these little organs suddenly shoots forth from one end to a great length, a slender highly elastic thread, which had hitherto been coiled up spirally within its cavity. The expulsion of this thread is effected by a proper organism, excited by the pressure on the tissues of the tentacle, but not forced out by the compression of the capsule itself, for this is much too minute to be compressed by the glass plates, under any power that can be brought to bear upon them. It is supposed that the adhesive touch of the tentacles resides in these little organs, and that a poisonous fluid accompanies the emission of the thread; since the mere contact of a tentacle with any small animal appears at once to paralyze it, however lively it may have been but a moment before. If this be so, what a highly curious example is here of the wondrously effective provision which the infinite resources of the Divine Wisdom have made for the wants of every creature!"—P. 25.

Let us contrast with this a passage on the economical uses of these sea-flowers. We confess without reservation our entire previous ignorance of the esculent properties of an Actinia. There is something perhaps a little revolting in the idea of frying a sea Anemone in egg and bread-crumbs, but it is certainly only on a par with scalloping a living oyster.

"And now for a paragraph of cookery. Dicquemare's testimony to the excellence of Actinia crassicornis for the table, tempted me to taste it, and I determined to take an early opportunity of cooking a few. In a few minutes I collected some half-dozen, of different sizes, at low water near Wildersmouth, and having rubbed them with my fingers in a tide-hole till the coating of gravel was pretty well got rid of, brought them home. I put them into a pan of sea-water for the night to cleanse them, and most beautiful and gorgeous was the appearance they presented when expanded; no two alike in colours, and yet all so lovely that it was difficult to say which excelled. Perhaps one with the tentacles partly cream-colour and partly white was as beautiful as any.

"The next morning, however, I began operating. As it was an experiment, I did not choose to commit my pet morsels to the servants, but took the saucepan into my own hand. As I had no information as to how long they required boiling, I had to find it out for myself. Some I put into the water (*sea*-water) *cold*, and allowed it to boil gradually. As soon as the water boiled, I tried one; it was tough and evidently undone. The next I took out after three minutes' boiling; this was better: and one at five minutes was better still; but not so good as one which had boiled ten. I then put the remaining ones into boiling water, and let them remain over the fire boiling fast for ten minutes, and these were the best of all, being more tender, as well as of a more inviting appearance.

"I must confess that the first bit I essayed caused a sort of lumpy feeling in my throat, as if a sentinel there guarded the way, and said 'It shan't come here.' This sensation, however, I felt to be unworthy of a philosopher, for there was nothing really repugnant in the taste. As soon as I had got one that seemed well cooked, I invited Mrs. G. to share the feast; she courageously attacked the morsel, but I am compelled to confess it could not pass the vestibule; the sentinel was too many for her. My little boy, however, voted that ''tinny was good,' and that 'he liked 'tinny,' and loudly demanded more, like another Oliver Twist. As for me, I proved the truth of the adage,—*Ce n'est que le premier pas qui coute;* for my sentinel was cowed after the first defeat. I left little in the dish.

"In truth the flavour and taste are agreeable, somewhat like those of the soft parts of crab; I ate them hot, with the usual crab-condiments of salt, pepper, mustard and vinegar, mixed into a sauce. The internal parts, including the ovaries and the tentacles, though from their mottled appearance rather repelling to the eye, were the most agreeable in taste; the integuments somewhat reminded me of the jelly-like skin of a calf's head. I wonder they are not commonly brought to table, for they are easily procured, and are certainly far superior to cockles, periwinkles, and mussels. After a very little use, I am persuaded any one would get very fond of boiled Actinias.

"Some I had left with a little of the gravel still adhering, in order to see whether this would be thrown off, when life departed; but it was not so. They should be cleansed before cooking, which can be easily and quickly done with the fingers under water: the base also should be scraped, so as to remove any bits of slate, or rock, or dirt, that adhere to it. Attention to these particulars greatly improves the appearance when cooked. They are of a pellucid rosy hue, of a firm consistence; at least sufficiently firm to be readily cut with a knife.

"The next that I tried were prepared in a different manner, and, truth to say, the experiment was far more successful this time. I cleansed them more perfectly, carefully scraping the bases, until they were freed from every particle of extraneous matter and from slime. These I had fried in egg and bread-crumbs, and they were very far superior to even the best on the former occasion. All prejudice yielded to their inviting odour and appearance, and the whole table joined in the repast with indubitable gusto. I know not if my readers are familiar with a dish which, in Newfoundland, during the cod-fishing season, we used to consider worthy of an epicure,—the tongues of the cod taken out as soon as the fish are brought on shore, and fried immediately. The Actiniæ fried as above described, I should scarcely be able to distinguish, either by the eye or by the taste, from fresh cods' tongues, except that perhaps my protégés are slightly firmer in consistence."—P. 150.

(To be continued).

'*The Annals and Magazine of Natural History*,' *No.* 69, *dated September*, 1853. *Price* 2*s*. 6*d*.

THIS number contains the following papers : —

'Notes on some new or little-known Marine Animals.' By P. H. Gosse. The species mentioned are : — Hippolyte fascigera, *Gosse*, H. Cranchii, *Leach*, H. Thompsoni, *Bell*, and Crangon sculptus, *Bell*, all of them Crustaceans, of the family Palæmonidæ ; Mysis productus, *Gosse*, a Crustacean of the family Mysidæ ; and Scholanthus callimorphus, *Gosse*, a Radiate, of the family Actiniadæ.

'On two new Species of Calanidæ, with Observations on the Spermatic Tubes of Pontella, Diaptomus, &c.' By John Lubbock, Esq., F.Z.S.

'Notes on the Ornithology of Ceylon, collected during an Eight Years' Residence in the Island.' By Edgar Leopold Layard, C.C.S.

'On the Head of the Genus Conus, *Linn*.' By J. E. Gray, Ph.D., F.R.S., V.P.Z.S., &c.

'On the Animal of Rotella, *Lamk*.' By J. E. Gray, Ph.D., F.R.S., V.P.Z.S., &c.

'On the Phosphorescence of some Marine Invertebrata.' By M. de Quatrefages. Extracted originally from the 'Annales des Sciences Naturelles.'

'On some new Carboniferous Limestone Fossils.' By Frederick M'Coy, F.G.S., Hon. F.C.P.S., Professor of Mineralogy and Geology in the Queen's University of Ireland.

Bibliographical Notices: —'A Naturalist's Rambles on the Devonshire Coast.' By P. H. Gosse, A.L.S., &c.

Proceedings of Societies: — Zoological—Botanical of Edinburgh. Miscellaneous: — On the Movements of the Blood in the Pulmonary Arachnida; by Emile Blanchard. Extracted from the 'Comptes Rendus,' June 20, 1853, p. 1079. The Tibetan Badger of Hodgson; by J. E. Gray, Ph.D. Note on the Germination of the Spores in the Uredines; by L. R. Tulasne. Extracted from the 'Comptes Rendus,' June 20, 1853, p. 1093.

'*On the Duration of Life in the Queen, Drone, and Worker of the Honey Bee.*' By J. G. DESBOROUGH, Esq. London: Longmans. 1853. *Price* 1*s*.

THIS is the Prize Essay of the Entomological Society of London for 1852, and also appears in the 'Transactions' of that Society. The author's facts appear to have been carefully observed and fairly recorded, and his essay is replete with information on many other points of bee history, besides the duration of life.

From a multitude of observations, the author is induced to believe the life of a queen bee to extend to three or four years; and those of a drone and a worker to vary from two to eight months: the life of a drone he regards as permissive only, the workers killing it whenever instinct so directs: the summer months, July and August, give more work, and consequently more wear and tear to the worker, than any others, consequently their life is then the shortest; while in winter, from an absence of exhausting causes, their life is proportionably longer. The essay is well worth reading.

'*Shells and their Inhabitants. The Genera of Recent Mollusca arranged according to their Organization.*' By HENRY and ARTHUR ADAMS. Parts III., IV., and V.; June, August, and September, 1853. London: Van Voorst. *Price* 2*s*. 6*d*. *each Part.*

THIS work continues to deserve all that we have previously said in its praise.

Part III. contains the Pteropodous genus Cymodocea, and the following genera of Gasteropoda: — Murex, Typhis, Trophon, Fusus, Neptunea, Cassidulus, Hemifusus, Pisania, Metula, Cantharus, Clavella, Euthria, Turris, Drillia, Bela, Lachesis, Clavatula, Perrona and Defrancia.

Part IV. contains the following genera of Gasteropoda: — Daphnella, Cythara, Mangelia, Tritonium, Distortio, Bursa, Buccinum, Eburna, Cominella, Northia, Truncaria, Bullia, Pseudo-strombus, Phos, Desmoulea, Nassa, Neritula, Teinostoma, Nassaria, Cyllene, Chorus, Purpura, and Iopas.

Part V. contains the following genera of Gasteropoda: — Vexilia, Pentadactylus, Acanthina, Pseudoliva, Pinaxia, Conchopatella, Cuma, Ropana, Rhizochilus, Separatista, Melapium, Rapa, Leptoconchus, Campulotus, Harpa, Olivancularia, Agaronia, Dactylus, Peristernia, Leucozonia, Fastigiella, Vasum, Mazza, Cymbium, Melo, Aulica, Olivella, Dipsaccus, Ancilla, Fasciolaria, Busycon, Tudicla, and Latirus.

The figures of these shells, accompanied as they are by those of the living animals, by Mr. J. de C. Sowerby, are most admirable.

'*Transactions of the Entomological Society of London.*' Vol. II., New Series, Part V., *published on the* 1*st of June*, 1853; *price* 4*s.*: *and* Part VI., *published on the* 1*st of September*, 1853; *price* 3*s.*

PART V. contains 48 8vo. pages of Transactions, and 48 pages of Proceedings, together with 2 plates. The papers are intituled: —

'Notices of some new Strepsipterous Insects from Albania, with further Observations on the Habits, Transformations, and Sexual Economy of these Parasites.' By S. S. Saunders, Esq. (Concluded).

'On the Duration of Life in the Queen, Drone, and Worker of the Honey Bee; to which are added Observations on the Practical Importance of this Knowledge, in deciding whether to preserve Stocks or Swarms; being the Prize Essay of the Entomological Society of London for 1852.' By J. G. Desborough, Esq.

'Descriptions of New Genera and Species of Curculionides.' By G. R. Waterhouse, Esq., F.Z.S.

The plates illustrate the economy of the Stylopites: we decline calling them Strepsiptera, since entomologists are now generally agreed in considering them Coleopterous.

Part VI. contains 32 pages of Transactions and 8 of Proceedings, besides 2 plates. The papers are the conclusion of that by Mr. Waterhouse, the title of which is given above, and —

'Contributions to the Natural History of British Micro-Lepidoptera.' By J. W. Douglas, Esq.

The plates illustrate Mr. Douglas's paper on the Micro-Lepidoptera.

It would be a work of supererogation to give any analysis of the contents of these parts, seeing how full an abstract of the several papers has already appeared in these pages; but we may nevertheless commend them most cordially to the notice of entomologists.

Proceedings of the Entomological Society.

September 5, 1853.—J. O. Westwood, Esq., V.P., in the Chair.

The following donations were announced, and thanks ordered to be given to the donors:—The 'Zoologist' for September; by the Editor. The 'Literary Gazette' for August; by the Editor. The 'Athenæum' for August; by the Editor. The 'Journal of the Society of Arts,' for August; by the Society. 'Smithsonian Contributions to Knowledge,' Vol. V. Washington, 1853: 'Sixth Annual Report of the Board of Regents of the Smithsonian Institution:' Norton's 'Literary Register' for 1853: 'Portraits of North American Indians, with Sketches of Scenery, &c.'; all by the Smithsonian Institution. 'A Treatise on some of the Insects of New England which are injurious to Vegetation,' by Thaddeus William Harris, M.D. Second Edition. Boston, 1852; by the Author. 'On two new Species of Calanidæ, with Observations on the Spermatic Tubes of Pontella, Diapotamus, &c.,' by John Lubbock, Esq., F.Z.S.; by the Author. 'Bibliotheca Stephensiana; being a Catalogue of the Entomological Library of the late James Francis Stephens, Esq., F.L.S., which has been preserved entire, and is now removed to Mountsfield, Lewisham, where it may be consulted by any Entomologist every Wednesday evening, as heretofore.' One copy for the Library, bound, and fifty copies for distribution among the Members; by H. T. Stainton, Esq. 'Revue et Magasin de Zoologie,' Nos. 8—12, for 1852, and Nos. 1, 2, 4, 5 and 6, for 1853; by the Editor, M. Guérin-Méneville. 'Catalogue des Larves des Coléoptères connues jusqu' à ce jour, avec la Description de plusieurs Espèces nouvelles,' par M. F. Chapuis, Docteur en Médecine et en Sciences Naturelles, et M. E. Candèze, Docteur en Médecine. Liége, 1853; by the Authors. Three boxes of butterflies; by Thos. Jones Stevens, Esq., of Bogota, Corresp. M.E.S. Six specimens of Aglossa cuprealis, taken in an out-house belonging to a flour and oil mill in Cambridgeshire; by Mr. Bond.

Mr. Moore exhibited a box of Coleoptera and Lepidoptera, recently captured by him at New Brighton, Cheshire.

Mr. Weir exhibited Coleophora Inulæ? bred from Eupatorium Cannabinum, Coleophora Wockeella and its larva-case, found attached to a shoot of Genista tinctoria, and Gelechia lentiginosella, bred from Genista tinctoria, all from Pembury, Kent;

also the larva of a Coleophora found feeding on a capsule of Silene inflata, and Tortrix dumetana from Lewes.

Mr. Edwin Shepherd exhibited Coleophora Vulnerariæ, Heliothis peltigera, Odontia dentalis, Pionea margaritalis, and two specimens of an albino variety of Eudorea pyralella, all from the neighbourhood of Dover.

Mr. Stevens exhibited a remarkable dark variety of Limenitis Sybilla from Essex, and a new British species of Simaethis from Arundel, captured in August.

Mr. Edleston sent for exhibition the head of a Plusia bractea, which he had separated from the moth in order to ascertain the nature of a singular body firmly attached to each eye, and which he had ascertained to be an anther of honeysuckle, from the flowers of which the moth is known to feed. These anthers were strongly affixed by their viscid extremities; and Mr. E. mentioned that he had seen several other examples on this species of moth.

Mr. Wing exhibited Ypsolophus Verbascellus, a new British species, bred from leaves of Verbascum floccosum, from Norwich, and Exæretia Allisella, beaten from Artemisia campestris near Lowestoft.

Mr. Douglas exhibited some Lepidopterous larvæ mining in leaves of Cornus sanguinea, from which, when full fed, they cut out an oval case in which to pass the winter. These larvæ, he said, were destitute of true legs, and had only indications of eight ventral and two anal prolegs. The species of moth produced from them is unknown. He likewise exhibited Gelechia Brizella, a species hitherto known as British only by a single specimen, and Coleophora binotapennella (*F. v. R.*), *Dup.*, both taken by him on the coast at Brighton in August, having been previously discovered there by Mr. Hemmings; the former among Statice Armeria, the latter among Chenopodium maritimum and Salicornia herbacea.

Mr. Stainton exhibited some larvæ of Gracillaria Phasianæpennella in the curious cases formed by them in the leaves of Polygonum Hydropiper, received from Professor Zeller, of Glogau. These cases closely resemble the truncated cones figured by Reaumur on leaves of sorrel, which figures are copied in Rennie's 'Insect Architecture.' He also exhibited larvæ of Cosmopteryx Zeiglerella, feeding on leaves of the hop, and larvæ of Elachista testaceella, feeding on leaves of Torilis Anthriscus, Sison Amomum, and other Umbelliferous plants, observing that the larvæ of E. Illigerella probably feed in a similar manner on the under side of the leaves of some of the Umbelliferæ.

Mr. Waring exhibited a specimen of Eudorea phæoleuca, recently captured by him in the Isle of Portland. This species is probably identical with E. Portlandica.

The Secretary read an extract of a letter from Dr. Candèze of Liége, stating that he was about to commence a Monograph of the Elateridæ, and wished to enter into correspondence with English entomologists, with a view to exchange specimens of Belgian and French species for those of England and other countries.

Read the following note on a letter from Mr. Weaver to Mr. Douglas: —

"Mr. Weaver writes from Loch Rannoch, September 1st, that he has this year taken several larvæ of the Lasiocampa described by Dr. Palmer in 1847, under the name of L. Callunæ (Zool. 1665); and that he is more than ever convinced that it is distinct from L. Quercûs. He has now noticed that these larvæ changed their last skin in June, and spun their cocoons to assume the pupa state, from the middle to the end of August: and they will not appear as perfect insects till next year. He has invariably found that this moth takes two years to go through its changes, whereas L.

Quercûs is perfected in one year; and he looks upon this fact, coupled with the period of the last moult of the larva, as the strongest proof of its being a distinct species."

Read an extract of a letter addressed to Mr. Douglas by Mr. Edleston of Manchester, in which that gentleman offers specimens of Plusia bractea to any entomologist who may apply for them.

Read also the following extract of a letter to Mr. Douglas, from Mr. John Scott, of Renfrew: —

"Before receiving your letter I had been making inquiries respecting Gelechia cerealella, and find that two years ago a cargo of grain (barley) was laid in the granary from Alicante, in Spain, but that since this there had been British barley also deposited; it might happen that the moths were first reared from foreign grain, and have gone on accumulating ever since. I have now upwards of a hundred specimens set, and observe in one of my glasses today, a male and female *in copulâ*. It has as much right to be considered British as the beetle, Calandra granaria."

The quarterly part of the Society's 'Transactions' was on the table.—*J. W. D.*

Proceedings of the British Association for the Advancement of Science.

Section C. — Geology and Physical Geography. Prof. SEDGWICK, President. A paper was read, intituled,

"On the Remains of the Hippopotamus, found in the Aire Valley Deposit, near Leeds," by H. Denny. The bones exhibited were obtained from the brick-field at Wortley, near Leeds, and consisted of a large humerus, an ulna and radius, and numerous portions of the skull and jaws, teeth, tusks, &c. They belonged to three individuals; two adults of different size, and a third younger animal, judging from the smooth and pointed canines and the separate epiphyses of the bones. They appeared not to have been drifted from a distance, but to have belonged to animals which lived and died on the spot: one of the skeletons was entire when first discovered, resting on its side, with the bones in their natural position. The clay in which the bones were found is part of a local deposit, consisting sometimes of sand and gravel formed from the neighbouring rocks of millstone grit; it is from ten to twenty feet deep, and ceases at a height of about ninety-five feet above the present level of the river. It contains trees and hazel-nuts, and remains of the red deer, horse, pig, and goat. A few remains of the elephant had been found lower down in the same valley, but they were broken and water-worn.

Prof. Phillips referred to two pieces of pottery alleged by the brick-makers to have been found with the bones; one of these was of a different colour from the clay, and the other was a glazed fragment, apparently of very modern date. Mr. H. E. Strickland referred to other valley deposits in which remains of the hippopotamus occur, and stated his belief that although more ancient than the historic period, they belonged to the most modern geological age,—to a time subsequent to the glacial period, and after the river valleys had assumed their present form.

Section D.—Zoology and Botany, including Physiology. C. C. Babington, Esq., President. The following papers were read: —

"Notices of some Living Aquatic Birds at Santry House, near Dublin," by W. C. Domville. This paper consisted of a list of birds, also of those which were desiderata in the collection. Mr. Allis, of York, observed that the collection contained no birds of great rarity.

"On some Discoveries relative to the Chick *in Ovo*, and its Liberation from the Shell," by Dr. Horner.

"Notice of the Reproduction of the Lower Extremities in a Warm-blooded Animal," by Mr. Allis. The case was that of a common song-thrush. In November, 1851, it moulted, and had every appearance of dying; was reduced to a skeleton and unable to walk; it lay on its back for six weeks, being fed by hand with raw beef, and occasionally with beef-tea and biscuit; early in 1852 an unusual protuberance appeared at the bottom and in front of the tibia above the ankle-joint; from these protuberances perfect tarsi and toes were developed, which came to maturity in about three weeks; this annoyed the bird greatly, and he destroyed the newly-formed members with his beak and by friction on the perch. He moulted again in September, 1852, and in November he lost his original tarsi, and new ones were produced; in January last fresh tarsi were again produced; these displaced those formed in November from articulation with the tibia, and the displaced tarsi are now visibly located on the upper edge of those produced in January last, which latter differ greatly from the normal form, being larger and flatter, and bearing a resemblance to the tarsi of aquatic birds; they have feeble though perfectly developed toes, which are sufficient for the purpose of locomotion, and to enable the bird to perch. The living bird, showing the one pair of tarsi overlying these subsequently produced, was exhibited to the Section by Mr. R. Cook, of York, its owner.

Mr. A Strickland referred to an instance of additional feet growing from the fetlocks of a mare. Prof. Allman referred to the well-known fact of persons with supernumerary fingers as analogous to this case. Dr. Redfern regarded the production not as an extra limb, but as a substitute for one that was lost. Dr. Lankester pointed out the fact of its occurring after a diseased condition, as placing the feet in quite a different relation to the cases related,—which were congenital, and not a new or acquired organic action.

"On the Utricular Structure of the Endochrome in a Species of Conferva," by Prof. Allman. The plant which constituted the subject of the communication, is closely allied to Conferva Linum, and the author showed that the deep green endochrome, when liberated from the cell, is seen to possess a very definite utricular structure. Each utricle is filled with homogeneous green matter, which surrounds one or more peculiarly formed starch-granules. In many instances, utricles were met with of a large size, and filled with a brood of secondary utricles, each containing homogeneous green contents, surrounding a nucleus-like starch-granule.

A long discussion followed the reading of this paper, which ultimately turned upon the distinctions existing between the animal and the vegetable kingdoms. Dr. Redfern dwelt on the importance of recognizing the function of cell-contents, as well as of cell-walls. Physiologists were too prone to recognize the cell-wall, to the exclusion of what it contained. Dr. Walker-Arnott stated that he had recently heard that starch had been found in the Medusæ. If this were the case, the existence of starch could be no longer claimed as characteristic of the vegetable kingdom. Prof. Allman agreed with Dr. Lankester that the best expression to be found for animal and vegetable life at present was, the general fact of vegetable tissue giving off oxygen gas and absorbing carbonic acid, whilst animal tissue absorbed oxygen and gave off carbonic acid.

"On the Morphology of the Pycnogonidæ, and Remarks on the Development of the Ova in some Species of Isopodous and Amphipodous Crustacea," by Spence Bate. The paper was read by Dr. Lankester, who also exhibited a series of drawings, made by Mr. Bate, of the more minute forms of Crustacea, and stated that the Committee had requested Mr. Bate to draw up a report on the present state of our knowledge of the lower forms of Crustacea, which would, he hoped, be presented at the next Meeting of the Association. He also expressed a wish from Mr. Bate to have sent to him any specimens or information that might be in the possession of naturalists in other parts of the country.

Prof. Allman drew attention to the analogies between the conditions of development in the Crustacea and Arachnida. Mr. Bate found but six legs amongst these lower Crustacea, and this was the case with some forms of Arachnida, more especially the Acaridæ.

Mr. J. D. Sollitt read a paper, prepared by himself, in conjunction with Mr. R. Harrison, "On the Diatomaceæ found in the Vicinity of Hull," showing that the fresh-water and marine Diatomaceæ were exceedingly numerous in this locality; the beauty of the varied forms of which were such as to delight the microscopist, and, at the same time, some of them are highly useful as forming that class of *test objects* for microscopes which are the best calculated of all others for determining the excellence and powers of object-glasses. As test objects they were first discovered by the Hull microscopists, and have now been adopted as such by all the microscopists not only in this but in all other countries. Mr. Harrison and Mr. Sollitt discovered the markings on those delicate siliceous coverings as early as 1841. It was shown that the markings on those shells were so fine as to range between 34,000 to 130,000 to the inch; the Plurosigma strigilis being the strongest marked, and the Navicula Acus the finest. It was afterwards pointed out that a large bed of fossil fresh-water Diatomaceæ, of at least two feet in thickness, had been discovered in Holderness, and that in a submerged forest on the coast of Holderness numbers of fossil fresh-water Diatomaceæ had been discovered, although the sea flows over the part at every tide. The paper concluded by pointing out that upwards of 150 species of marine and fresh-water Diatomaceæ had been identified in the neighbourhood of Hull.

The reading of this paper was followed by a long discussion. 1. In relation to the microscopic powers and the structure of the instruments employed by the Hull observers. 2. With regard to the nature of the lines found on the surface of the Diatomaceæ. 3. On the question of the vegetable or animal nature of the Diatomaceæ. From the statement of Mr. Sollitt and Mr. Harrison, it appeared that the lenses which they had employed for the minuter markings, were object-glasses of Natchet's manufacture, the one-sixteenth and the one-eighth of an inch focal distance, with angles of aperture of 115° and 105° diameter, and for the larger markings Smith's one-fourth, with an aperture of 46°. With these glasses they had detected markings whose interspaces numbered 130,000 to the inch. Mr. Sollitt regarded the lines as consisting of rows of minute tubercles, which gave the appearance of continuous lines. Dr. Walker-Arnott considered that these curious beings must now be regarded as plants. Prof. Allman looked upon them as the starting-point of Nature, in which the mineral, animal, and vegetable laws of creation were struggling for ascendancy. Mr. Sollitt and

Mr. Harrison regarded them as animals, and quoted the opinion of Prof. Bailey, of New York. Prof. Balfour referred to their resemblance to Desmidieæ, and the conjugation observed amongst them, as conclusive proofs of their relation to the Confervæ, whose vegetable nature no one doubted. Dr. Lankester referred to Schleiden's objection, of their possessing a highly complicated structure, and pointed out their resemblance to the Foraminifera, which all agreed to be animals. It had, however, been asserted that the Diatomaceæ possessed starch, and as yet this had not been discovered as a secreted product in beings recognized as truly animals, whilst starch was universally present in true vegetable productions.

"On the Structure of Bursaria, a genus of Infusorial Animalcules," by Prof. Allman.

"On the Nature of Ciliary Motion," by P. Duncan. The author detailed what had been done by English observers on this subject, and came to the conclusion that the cause of the bending and returning of the cilium resided in the cell-wall of the cell which sustains the cilia, and that to a greater or less extent the whole of the cell-wall is contractile.

Prof. Allman and Dr. Redfern observed that the view taken by the author was undoubtedly correct, and had been recently fully developed by Continental physiologists.

"On a Species of Priapulus, a Genus of Echinoderms belonging to the Family Sipunculidæ," by Prof. J. Phillips. This genus was but little known to British naturalists, and from the descriptions he was inclined to doubt if the present species, which was taken off the coast of Scarborough, was identical with that described by Prof. E. Forbes in his work on British Starfishes.

"On the Structure of the Fresh-water Polyp (*Hydra viridis*)," by Prof. Allman. It had been stated by Ecker and Kölliker that these creatures possessed no cells, but were composed of a mass of granules between which occasional vacuolæ occurred. He had succeeded in observing that the whole of the structure of the Hydra was cellular, and no exception to the general law that regulated the existence of organic beings.

Dr. Lankester exhibited a series of drawings of the British fresh-water polyps, executed by Prof. Allman, which he stated were intended to illustrate a work on this subject to be published by the Ray Society. Among these were several new species, and he especially called attention to one of these, which seemed to be an exception to the general law that the polypidom of the polyp-bearing animals is fixed. In this case the polyp-stalk possessed the power of moving, as well as each individual member of the mass.—*From the 'Athenæum,' September* 17, 1853.

Proceedings of the Society of British Entomologists.

August 2, 1853.—Mr. Harding, President, in the chair.

Mr. Miller was elected a Subscriber to the Society.

Mr. Harding exhibited a box of insects taken at Darenth Wood during the past month: among the Lepidoptera were Ceropacha fluctuosa, Heliothis marginata, &c., and the Coleoptera comprised Leptura sex-guttata, Cryptocephalus Coryli, Pachyta collaris, &c.

Mr. Harding said he took a strange-looking pupa in April, from the trunk of a holly, from which he had bred Cryptocephalus flavilabris.

September 6, 1853.—Mr. Harding, President, in the chair.

Mr. Dalman exhibited a splendid pair of Plusia Orichalcea, taken by Mr. Harding near Kingsdown, in Kent.

The President exhibited a box of insects from the Kentish coast, among which were Lithosia quadra, L. pygmæola, Setina irrorella, Lupirona albicolon, Agrotis Aquilina, A. valligera, Eremobia ochroleuca, Heliothis marginata, H. Dipsacea, Dositheа immutata, Acidalia perochraria, Timandria emutaria, Odontia dentalis, Phibalapteryx gemmaria, Cledeobia angustalis, Scopula ferrugalis, Anerastia Farrella, Nemotois Cypriacellus, &c.

The President read the following letter from Mr. Oxley, who emigrated to Australia in May, 1852: —

"Forest Creek Diggings,
"Victoria, March 5, 1853.

"This colony is not a first-rate place for an entomologist. The Coleoptera are curious, and some few certainly handsome; I have succeeded in getting a few score of them, my collecting in this department being more extensive than in Lepidoptera. The colours of the Lepidoptera of this place have a strong resemblance to those of the English moths and butterflies, very few of them having the rich metallic tints of the tropical species. The markings of many of the insects are very pretty, but the colours generally obscure and dusky. From October up to last month we had Cynthia Cardui, or one very like it, in abundance; indeed it appears to be the commonest butterfly here, and lasts, as most of the insects do in this country, for a long time. If I were to pass my opinion on such of the Lepidoptera as have come under my notice, I should say that with one exception I have seen nothing here to equal our Vanessa Atalanta, V. Io, or Limenitis Camilla.

"I live in the hope that the autumn now approaching may turn out something better than the past season, as on the 3rd instant I bred two insects, coming I think near the hair-streaks, only larger, having the borders of the wings indigo-colour, or nearly black, and their centres a metallic azure-blue, with red and black caudal appendages: the under side yellowish, beautifully lined and spotted with black. This is one of the most beautiful things I have seen; I hope to breed a dozen or two more of them.

"You justly observed that I should find collecting difficult work, for many times of an evening I see insects and have no heart to take them, being so tired with the day's exertions; and as gold-digging was the primary object of my coming here, I can with difficulty spare time to do much in the day-time. I shall not be able to collect enough to make it worth while to send home, but hope to have some kind of a collection—an *olla podrida*, or a little of everything—to bring home on my return.

"No country has been so much over-written as this; thousands who are here curse it from the bottom of their hearts. I am writing this under the shade of a red gum-tree; the sun is scorching all around, and perhaps at night it will be chilly cold: the changes are more extreme than at home. There is much dysentery, ophthalmia, and rheumatism amongst the people here. At the end of November or beginning of December there was a tremendous flight of grasshoppers for two days—millions and millions of them; and they still are with us in countless numbers. This is a great country too for ants, they are to be found of every size, and in nearly every place. Nor must all mention of fleas and flies be omitted, for the former will scarcely allow you to get a wink of sleep at night, and the latter are a perfect pest, getting into one's mouth, eyes, and nostrils, so as to render the wearing of veils indispensable.

"Within a month from this time I guess you will have commenced your entomological campaign for 1853: I should like to be with you at dear old Darenth Wood, but do not anticipate it this year, unless fortune's favours are unexpected and speedy, but be assured I will leave this country as soon as I can conveniently. One day's collecting, or one night's mothing at Darenth, is worth more than a month's collecting here, for comfort and real enjoyment.

"THOS. J. R. OXLEY."

Mr. Dalman observed that the larvæ of Acherontia Atropos appeared to be rather plentiful this year; and several other members had seen or obtained some.—*J. T. N.*

Note on the unknown Eggs found near Norwich. — The remarks of your correspondent on this subject (Zool. 4014), seem to refer to some variety in the eggs of our common kingfisher much resembling those in question. The kingfisher (*Alcedo Ispida*) is certainly met with in many parts of the Norwich river; but even supposing the eggs of that bird to vary occasionally in form, I think the number of those lately found, is a sufficient reason for not assigning them to the kingfisher. As I stated before, they resemble the eggs of the common swift more than any other's in shape, but instead of having a chalky exterior, they are smooth and shining. I am sorry that I can give no further information at present respecting the nest, as I have never been able to meet with the boys who found it; however, I question very much if they noticed it sufficiently to throw any fresh light on the subject.—*H. Stevenson; Norwich, September* 17, 1853.

Note on the late Nidification of Birds. — There is at the present time the nest of a goldfinch in an orchard here, which contains young only just hatched. Two days ago I saw some thrushes, which had just been taken from the nest, being still unable to fly or to feed themselves; and about a fortnight ago I found some hedge accentors in the same predicament, except that the latter were still enjoying their "mother's love and father's joy," instead of being cooped up in a wretched little prison not six inches square, as the former were, to be crammed from the hands of their merciless gaoler. The above are remarkable proofs that the continued wet this season has induced the feathered tribes to delay their incubation till so late, that their offspring stand a fair chance of being frozen, if not drenched to death. — *Alfred Merle Norman; Pyrton, Oxfordshire, September* 17, 1853.

Occurrence of the Osprey (Falco Haliætus) *at Weybridge.*—I have had brought me for stuffing a most beautiful specimen of the osprey. It was shot on Sunday last, at Weybridge. I should feel great pleasure in showing it to any one who may wish to see it.—*James Gardner*; 426, *Oxford Street, September* 15, 1853.

Note on the Grasshopper Warbler (Salicaria Locustella). — About two years since having a great desire to add to my collection an example of this rare little bird, I paid several visits during the summer to one of our smaller broads, always abounding with the more common reed and sedge warblers, and not unlikely, from the denseness of the herbage, to harbour the rarer species of the same tribe. For a long time I watched in vain, and had nearly given over my search as hopeless, when one still summer afternoon I heard distinctly, in a clump of reeds, that peculiar creaking note, which, once heard, cannot be mistaken. But although my ears were greeted with such welcome sounds, the wary little fellow was far too cunning to trust himself for an instant within sight; and again was I obliged to leave without obtaining a specimen. I happened, however, to have with me a man whose employment keeps him almost entirely on the broad, both early and late, and making him observe the note well (which he said he had often listened to, but never supposed it to come from a bird), he seemed pretty sure of being able to shoot one. About a week after this, I was delighted at receiving from him a fine male specimen; and since then, including this year and the last, he has procured for me no less than seven. Of these birds one only proved to be a female, wanting entirely the little brown spots on the throat; another, a young male of the year, showed that they breed on the broad, though as yet I have been unable to discover either the nest or eggs. From these circumstances, I cannot help thinking that the grasshopper warbler, although visiting this country in far greater numbers than either the reed or sedge warblers, is still less rare than is generally supposed, and that, by careful attention to its habits, it may be met with in most localities as well suited to its shy mouse-like actions as our Norfolk Broads. The following remarks, from my own observations, and the shrewd descriptions of the broad-man, may not be uninteresting to your readers. The grasshopper warbler arrives later and leaves us earlier than either of the others. He is seldom heard in the middle of the day, and never in windy weather; but sometimes on a fine sunny afternoon, when scarcely a breath of air is stirring the feathery tops of the reeds, his loud creaking note may be heard in some neighbouring sedges; rarely however will he expose himself to danger, even by a short flight to some other hiding-place. Early in the morning, or on moonlight nights, appear to be the only certain times for seeing him, as he then seems to be much less cautious, and either hanging from the reed-stems, or perched on the topmost twig of some small bush, he may be heard creaking for a long time, constantly moving his head from one side to the other. If heard over-night, when too dark for anything to be distinguished, he will invariably be found in the same place at the first dawn of morning; and even if fired at and missed in the evening, he will still remain near the same spot. Though occasionally met with in hedge-banks away from any stream, he is always most certain of being found amongst reeds and sedges, in company with his kindred species.—*H. Stevenson; Norwich, September* 11, 1853.

Note on singularly placed Nests of the Pheasant (Phasianus Colchicus) *and Red-legged Partridge* (Perdix rufa).—The interesting account given by my friend, the Rev. A. C. Smith, of a nest of the common partridge on a stubble-rick (Zool. 3945), has reminded me that I ought to record two singular instances of game birds nesting in elevated situations. The first is that of a pheasant, which, although it happened full twenty years ago, yet I have it on the authority of two respectable eye-witnesses, and I do not doubt any of the particulars of the case, which is as follows. The nest was on the bough of a Scotch fir-tree, about, I suppose, fifteen feet from the ground, and was an adaptation of a squirrel's "drail." The old bird was seen several times while she was sitting on her eggs; and when, in due course of time, these were hatched, my informants tell me that two young ones were discovered dead at the bottom of the tree, and in the nest was found one addled egg, together with the shells of nine others, from which young birds had been hatched. There was a thick undergrowth of furze surrounding the clump of trees in which the nest was situated, so that the bird's breeding in so unwonted a position must have been quite the result of choice. The second instance is that of a red-legged partridge, a nest of which was found here this year on the thatch of a stack of barley. The old bird was sitting on thirteen eggs when it was discovered, and would doubtless have hatched her young, had it not been necessary to remove the stack before that devoutly-to-be-wished-for consummation had arrived.—*Alfred Newton ; Elveden Hall, Thetford, September* 1, 1853.

Correction of a previous Error respecting the Masked Gull, (Larus capistratus).—In a note some time ago (Zool. 2825), I recorded the occurrence of a specimen of the masked gull on the river Dart. I had, during the past summer, an opportunity of examining this identical bird, which is now in the Museum of the Torquay Natural History Society, and I have no hesitation in saying that it is a specimen of the black-headed gull, (*Larus ridibundus*). Whether the masked gull is, or is not, a species, is a question I am not able to enter upon ; but this is evident, that nothing is more likely to bring discredit on the existence of such a bird, than a mistake like that which I have unfortunately made.—*Id.*

Additional Note on the Spider that lived Twelve Months without Food.—From the date of the article quoted in a former number (Zool. 3883), namely, October 6, 1852, up to the month of May, 1853, the habits of this spider were very similar to those already described; towards the end of that month, however, he began to wander about very much. These wanderings were performed exclusively on the back, top, and sides of the box, and never on the bottom or on the birds, so far at least as could be seen by myself or any of my household, who were a goodly number, and always on the alert. About the middle of July his peregrinations became more frequent, and more protracted, he being absent for days together from his accustomed nook ; his whole manner too became altered, and his appearance a good deal changed for the worse. The birds were now taken out of the case, in order that his movements might be the better observed. Restless, seemingly much agitated, and doubtless pressed by hunger, he would often wander for hours and days together, up and down, and to and fro on the back and sides of his prison-walls. Every day bore testimony to his increasing weakness and his approaching end. Being now unable to support his own weight, he was several times observed to fall from various heights to the bottom of the case ; and on such occasions he was frequently unable to reascend for some considerable time thereafter. On looking into the case on the morning of the 3rd instant, I was not a little surprised to find that my prisoner had disappeared. See him I could not, although I scanned the whole box over and over again : all hands and all eyes were summoned, and though each had his turn, no one could find the little fellow. I may here mention that the bottom of the box, having been fitted up to hold sea-birds, has a rough covering, so as to resemble a rocky surface, and it was thought that the object of our search had fallen behind one of the stony projections, where he had died. However, on the evening of the 7th he was again seen slowly wending his way up the back of the box, and once more regained his lonely abode in the corner. On the 9th he was again lost sight of until the 11th, when he once more made his appearance. On the 14th he was again seen to leave his home, to which he never returned : having gained the extremity of his net, he was observed to fall to the bottom of the case, and though he made several attempts, he was quite unable to reascend. Fatigued and worn out by his endeavours to get up, he was finally observed to creep behind one of the rocky projections already alluded to, where, on the morning of the 25th inst., he was found dead and reduced to a mere shadow. And so ends the history of my spider, after he had lived in his prison for a year and ten months, without food. — *Thomas Edward; Banff, August* 29, 1853.

Notes on a short ***Excursion*** *to* ***Rannoch.*** — I had heard so much of Rannoch and its surrounding country, of its entomological productions, and the very few who had taken advantage of its richness, that for a long time I had been very desirous of paying it a visit. Indeed, at last it come to be part of my dreams by night as well as of my thoughts by day; but circumstances always prevented me from taking the journey until the end of June, 1852. Of my progress thither it is needless to say anything, save that it occupied two days in its performance, the first of these by conveyances of all kinds, the second by walking over as rough a tract of country as could well be picked out. For miles there was no cultivation, no houses, nor anything but high frowning hills on either side, from the faces and down the sides of which huge blocks have been detached and rolled into the valleys below, diverting the small stream from its otherwise regular course, bending and twisting it into such fantastic curves, that one might fancy it some huge Hydra writhing in convulsions. Sometimes the road lay along the top of a great chasm, and now a rock interposed as if to prevent all further passage that way; now winding away far into the distance, as though it had no end, and then over a great hill, six miles across. After about twenty-three miles of this sort of country, I at last got a glimpse of the loch, with a few houses on its farthest shore. For miles and miles everything is covered with heather; whilst here and there stand a few aged firs, looking like monuments of the once great forest, or some birches, indicating that they also have had something to do in former days in crowning the now otherwise heathy district. Full directions from a kind friend who had been there previously, enabled me very easily to discover the place I sought; and so, after a few questions, I found myself established for the few days I was to stay there. After putting everything in order for work the next day, I went to bed, intending to be up betimes, and, thanks to my long walk, slept soundly; but when I arose on the following morning, the rain was falling in torrents. This was a sad disappointment, as I had along quite forgotten that the sun does not always shine: however, it cleared up a little about mid-day, when I set out to ransack the ants' nests, which are very plentiful and very large, and for the most part formed at the roots of the black fir-trees. Tinea ochraceella I found in abundance: many of them were sitting on the heather and Vaccinium growing close by. Several of the females which I boxed, ejected a fine, yellow, cottony kind of substance over the eggs they deposited: this fine down was sent forth with great rapidity, until it attained the size of a large pea. In the centres of the ants' nests I found several larvæ of Cetonia ænea, which I brought away with me, and have since reared some of them. The ants did not seem to heed the Tinea while alive, but when I killed a few, and threw them on the hills, they were at once seized and carried off. From decayed ferns I beat a few specimens of Œcophora stipella; round about the firs swarmed Stigmonota coniferana: and whilst I was boxing the latter, a single specimen of Tinea fulvimetrella came into my net. Mixodia palustrana was not uncommon amongst the heather. Harpalyce ruptaria was abundant amongst the birches, including some beautiful varieties. On the top of the highest hill, whither I went in search of Psodos trepidaria, I took a few specimens of Crambus lapponicellus;* I also beat Tinea prælatella from birch. I was surprised at the scarcity of Micro-Lepidoptera, but contented myself by atributing it to the very wet weather, as it was no uncommon thing for me to be wet through two and three times in a day. Lithocolletis Caledoniella was the only other thing of note which I took amongst these little gems: here I found it among birch; at Renfrew I take it in company with Dunningiella and Emberizæpennella, amongst oak and honeysuckle. With sugar I did nothing by night, it being both too wet and too windy; I generally however examined the trees in the mornings, but my only visitors were Carabus glabratus and Rhagium inquisitor. I had hoped to capture thus Cetonia aurata and C. ænea, as well as Trichius fasciatus, but, I suppose, the absence of the warm sunshine kept them away. Carabus glabratus was by no means uncommon, either beneath stones, or running across the paths. Fairly embedded, "like a red-hipped humble-bee, on the top of a thistle," lay Trichius fasciatus, eagerly driving its long trunk with wonderful quickness to the bottoms of the flowers, in search of the sweets deposited there, too busy to offer any resistance to its capture: on being laid hold of, it emits a strong perfume not unlike that of otto of roses. Pissodes Pini was in great numbers under the felled timber. An occasional Acanthocinus Ædilis might be observed passing through the air, with its long antennæ gracefully thrown back: they are very destructive to each other, and when they meet, mutilation generally takes place. I was most desirous to obtain the larva of this insect, in order to throw some light on its transformations, but was unsuccessful. The felled timber had an occasional Rhagium Indagator resting upon it. I also took Lamia textor, and the specimens are certainly the largest I have seen. This insect I obtained on the road-side, near to where some old birch-roots had been grubbed up, and from this I concluded that it had been bred in them. In moving, their joints gave out a creaking sort of noise, as if the sinovia had dried up. Asemum striatum was very common; I did not care to take it, as at Renfrew, before starting, I had captured a great number, and again, this season, have taken no fewer than seventy-five specimens. Leiodes humeralis, Thanasimus formicarius, Hylesinus crenatus, and one or two Curculios were plentiful. And now, in conclusion, I would fain recommend to all who can spare a few days in summer, especially to our northern collectors, a visit to this place. All classes of naturalists may be edified and enriched, since the locality abounds with scarce specimens not only in our branch, but in almost all branches of Natural History. It is, in many respects, a tempting spot. The hum of the city is all unheard; and the stillness which for ever dwells here, only broken in upon at intervals by the cry of the golden plover or the curlew, which the traveller may chance to start from their resting-place, and which are his only companions, cannot fail to arrest attention. And it is glorious and heart-inspiring to roam about, freed from the cares of business and the yellow-eyed fever of money-getting, which for days and months previously have been weighing us down, with the broad face of Nature smiling upon us, and inviting us by her thousand charms to live with her, and forgetting for a time what we were, to

"Find tongues in trees, books in the running brooks,
Sermons in stones, and good in everything."

—*John Scott*; *London Works*, *Renfrew*, *August* 31, 1853.

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* The insect described by Mr. I. Gray in the 'Naturalist' as Crambus radiellus (lapponicellus, *Guen. in litt.*), is not that insect, but merely C. margaritellus, and pretty abundant on the heaths of Renfrewshire. C. lapponicellus is mountainous.

Capture of ***Plutella Dalella.*** — I have taken some fine and beautiful specimens of Plutella Dalella, and should be glad to make a few friendly exchanges with any gentleman who may require them. — *J. Johnson ; Denby Parsonage, near Huddersfield, September* 15, 1853.

Note on the Larva of ***Eudorea murana.*** — I have been fortunate enough to meet with the larvæ of this insect in abundance. The larva lives on moss growing on old walls, and may probably be obtained throughout the whole year. I have found it as early as February, and up to the present time. It is easily observed, from its constructing long tubular passages in which it lives during the day. When full grown, it is about an inch in length, brown, with a few spots and hairs on each segment: the head and shield pitchy.—*John Scott ; London Works, Renfrew, August* 29, 1853.

Notes on the Hymenoptera of Southend and its Vicinity. By FREDERICK SMITH, Esq., Assistant in the Zoological Department, British Museum.

SOUTHEND and its neighbourhood have long been known as a locality producing many rarities in the orders Coleoptera and Lepidoptera; the captures of Hymenoptera made by me during the last two weeks of August and the first week of September in the present year, will, I think, place this district in the highest rank as a locality for rarities in that order also. The late period of the season when I explored the district, precluded the possibility of giving any adequate idea of the species of Apidæ which may be found there; but in Fossorial insects it is fully equal in productiveness to any locality with which I am acquainted. As in the Apidæ our standard is the 'Monographia Apum Angliæ,' so in the Fossores is Shuckard's Essay. I will therefore enumerate the species I met with in the order in which I find them in the Essay, making such remarks as appear to be necessary as I pass along.

I should, however, in the first place, point out the exact spot where my best captures were made. On arriving at Southend, the entomologist would be induced, by the seeming excellence of the situation, to search the slopes and shrubbery to the west of the pier: so far as Hymenopterous insects are concerned, the result of my experience would lead me to advise him to spare himself that useless trouble. I spent two days in a fruitless search at that spot, not capturing a single insect of the slightest rarity. My advice is, turn eastward, and then, leaving the town and the deceptive slopes behind, trudge merrily on for about a mile, until, in fact, you come within about a hundred yards of the slopes, which in some parts of their extent rise abruptly from the beach to a height of thirty feet: here some short slopes and broken ground will be met with. Look about carefully, for this is the locality where the elegant Dasypoda hirtipes is to be found. Of this bee I captured some fine examples: the best time to take them is about 9 o'clock in the morning, on their first coming out, and before they are laden with pollen, which it is difficult to remove from the plumose scopa of their posterior tibiæ. About this spot I also met with Cilissa tricincta and Andrena pilipes. Along the hedge-rows of the fields to the left of the slopes I found the male of Bombus Latreillellus, usually a rather scarce insect: Bombus lapidarius, however, was the most abundant of the genus, in fact occurring in greater profusion than I ever recollect to have observed any one species in a given locality. Apathus rupestris also abounded.

Having searched the spots alluded to, the best way, I believe, is to follow the path-way on the top of the slopes, carefully examining the foot-path and bank on the left; here, towards the further end, I picked up several specimens of Mutilla ephippium, which is not uncommon, as I captured ten specimens of the female, the other sex I was too late to meet with. In the hard trodden path-way will be found many burrowing Hymenoptera, and amongst others Cerceris ornata.

But I must proceed to enumerate the species in the order in which they are arranged in the Essay, just premising that at the extremity of the slopes you arrive at an open, barren, unpromising-looking piece of waste land, called Southchurch Common, the farther extremity of which is a rabbit-warren; this is the field of my campaign! Immediately on reaching the end of the slopes commences a raised mound, or wall of sand, which runs parallel with the foot-path to the end of the field which it bounds; on the south side of this bank most of my captures were made, others upon the flowers and bare spaces on the adjoining common. Tiphia femorata was found here, but I was too late to judge in what abundance it occurs. Of the genus Pompilus I captured the following: — P. plumbeus, niger, rufipes, fuscus, gibbus, pectinipes, sepicola, affinis, and exaltatus. P. rufipes I was glad to meet with, it being so very local, and having only once before captured it, in Sandown Bay, Isle of Wight: of this species I took eleven specimens.

Aporus bicolor. This was the first time I had taken the species. On examining this insect, I was at first led to believe that I had captured a new species, having, as I supposed, met with Aporus at Weybridge, and possessing four examples. After a careful investigation of the subject, I arrive at the following conclusions: — All the specimens which I have seen in cabinets, including my own four, are only individuals of Pompilus pectinipes with the *second transverse nervure* obsolete; one example only in the collection of the late Mr. J. F. Stephens being the *true* Aporus of Spinola. The characters, both generic and specific, in Shuckard's Essay, belong to the variety of P. pectinipes (crassicornis, *Shuck.*); the wing figured is also that of pectinipes. On turning to Spinola's generic characters, the description of the *wing alone* is quite decisive: the superior wing is described as having one marginal, and two complete submarginal cells; the third being incomplete, the second submarginal cell receiving the *first* recurrent nervure, and the second recurrent nervure *uniting* with the transverse nervure which divides the *second* from the *third* submarginal cell. Such is Spinola's description; and yet, both in Shuckard and St. Fargeau, the second cell is described as receiving *both* the recurrent nervures: the relative proportion of the cells is also different. Other characters are given, which place the matter beyond a doubt: the form of the antennæ, as well as the oral organs, being most carefully described, and quite different from those of my supposed specimens of Aporus. I strongly suspect the genus Evagetes of St. Fargeau to be also the true Aporus of Spinola. The capture of this insect is therefore an event of considerable importance, since it has thrown a light on a genus hitherto misunderstood by many entomologists.

Ammophila sabulosa, viatica, and lutaria. The last-named species I never captured before; it is apparently rare in this locality. I took three males and two females.

Larra Pompiliformis was very plentiful.

Harpactus tumidus, scarce.

Cerceris arenaria, ornata, and labiata. The latter species I had previously always found rare. I have occasionally met with a specimen at Weybridge, and in parts of Hampshire, but always singly; here I captured about forty, including both sexes. What is its prey I could not detect, neither could I find any spot where they were gregarious like C. ornata. I occasionally saw one on the sand-bank, but most of my specimens were captured on the flowers of Achillea Millefolium.

Scattered about on the waste are plants of Echium vulgare, to the flowers of which the rare Megachile argentata pays its visits. I took both sexes of this little bee.

Many other rare Hymenoptera are probably to be found here at different periods of the season; sufficient however have, I trust, been recorded to satisfy any one that my opinion of this being *a first-rate locality*, is pretty near the truth.

Various species of ants are also found: of the genus Formica the species rufa, cunicularia, nigra, fusca, flava, and fuliginosa; and of Myrmica, rubra, lævinodis, ruginodis and fuscula.

Ichneumonidæ abound here. I took a splendid series of the beautiful Ichneumon viridatorius and ornatorius; and from a connecting string of varieties I am led to suspect that these constitute but one species.

In the Proctotrupidæ I met with two scarce genera, — Epyris niger and Sparasion frontale.

Many nice species of Diptera also occur, — Anthrax Hottentotta in great numbers. I also captured a genus apparently rare in this country, the Elachiptera brevipennis of Macquart. I observed it hopping on a hot sand-bank, occasionally sliding down with the loose particles it had disturbed, and again dancing up in unceasing restlessness.

I took many good species of Coleopterous insects, but I leave these to be enumerated by those better acquainted with that branch of Entomology than myself. Neither have I thought it advisable to make mention of those species of Fossorial Hymenoptera which are universally distributed.

FREDERICK SMITH.

British Museum, September 18, 1853.

Death of Mr. H. E. Strickland. — "We have to announce, with deep regret, the death of Mr. H. E. Strickland, who was killed on Wednesday by a railway train, whilst examining the strata of a railway cutting on the Manchester, Sheffield, and Lincolnshire line. The melancholy particulars are thus given in the daily papers: — 'Mr. Strickland arrived at East Retford on Wednesday from Hull, having attended the recent meeting of the British Association. He was attached to the Geological Section of the Association; and in pursuance of his practical investigations in that science, he proceeded on Wednesday afternoon to examine the strata of the deep cuttings on each side of the Clarbrough Tunnel, about four miles distant from Retford. A little after 4 o'clock, a boy at work in the fields observed him standing between the two lines of rails, near the mouth of the tunnel, on the Gainsborough side, with a pocket-book in his hand, apparently engaged in making notes. At this time a coal-train was approaching on the down line, to avoid which he stepped off the "six-feet" on to the up line; but unhappily he did so just at the moment when the Great Northern passenger train was issuing from the tunnel. The train dashed upon him, and the next instant he lay a shattered and shapeless corpse.'"—*From the 'Athenæum,' September* 17, 1853.

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